ALICE EMCal Project

T.M. Cormier, WSU

EMCal Project Status

- Project funded as of July 11, 2005 as an pre-conceptual "R&D" project to complete

(1) **support structure** design fabrication and installation. Delivery to CERN August 2006. This critical path activity absorbs most of our attention now. See Joseph's talk

(2) **test beam prototype detector** design fabrication and test through to mass production readiness.

$600k received in FY05 out of a total estimated cost for this scope of $1.6M

EMCal Project Status

Project to be reviewed in December

Scope:

(1) completion plan for the "pre-conceptual R&D"
Started in FY05. Presentation of our current view of scope /cost / schedule

(2) Proposed "construction project" consistent with DOE funding profile guidance (FY 07,08,09) = ($1M,$2M,$2M)

(3) Proposed "construction project" with funding profile optimized to physics scope / schedule and European participation

(4) Outline of scientific justification

EMCal Project Status

- DOE advice:
  Plan for CD-1 by mid summer

- This increases the scope and cost of our FY06 R&D activity

EMCal Project Status

Broadening the base ….

- Actively seeking European (non-US) participation
- First joint US/European meeting on the ALICE EMCal scheduled for beginning of December in CERN
- Meeting participants: French, Italian, Spanish, US, and CERN groups

•Objective: find “first draft” common ground for collaboration consistent various national interests, capabilities and experience

EMCal Project Status

Test Beam …….

64 tower prototype and test infrastructure nearing completion at WSU

ALICE/PHOS DAQ nearing completion at ORNL@BNL

Fermi Lab meson test beam scheduled for 3 weeks in November

First goal: Preliminary test results (show-and-tell level) ready by DOE review

EMCal Project Status

Project Organization

ALICE-USA Electromagnetic Calorimeter Project Management Plan

Draft 7-12-05

UC Berkeley
UC Davis
UCLA
Creighton University
University of Houston
Kent State University
Lawrence Berkeley National Lab
Lawrence Livermore National Lab
Michigan State University
Oak Ridge National Lab
Ohio State University
Purdue University
University of Tennessee
Vanderbilt University
University of Washington
Wayne State University

(ALICE-USA Collaboration June 2005)

Contents

Project Organization: key contacts

James Symons, LBNL NSD Director

T.M. Cormier, Project Manager

Joseph Rasson, Deputy Project Manager

Terry Awes, Electronics, Test Beam

Peter Jacobs, Trigger

Ron Soltz, Computing

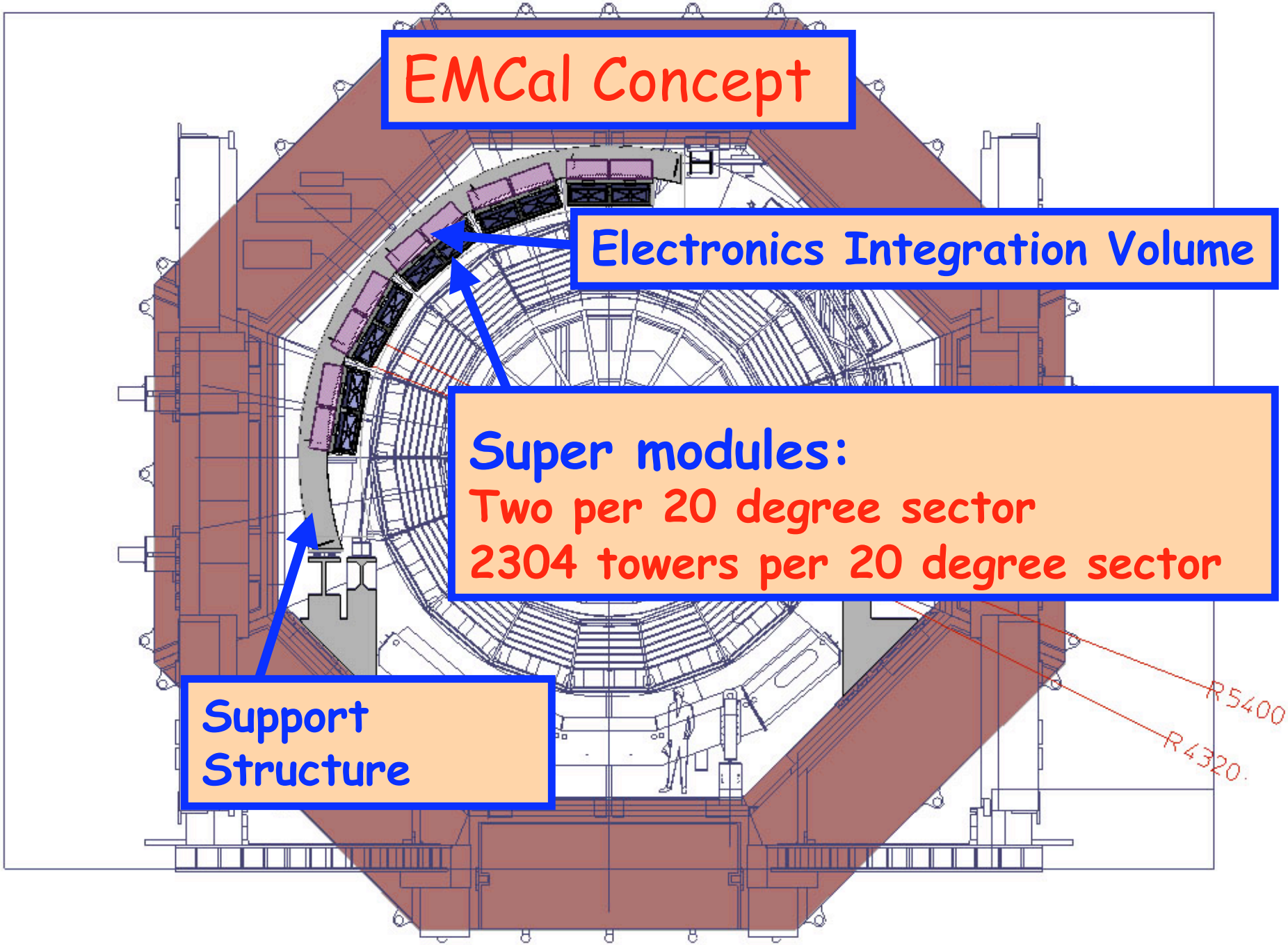
Physics Requirements Document

Appendix A ALICE EMCAL REQUIREMENTS DOCUMENT

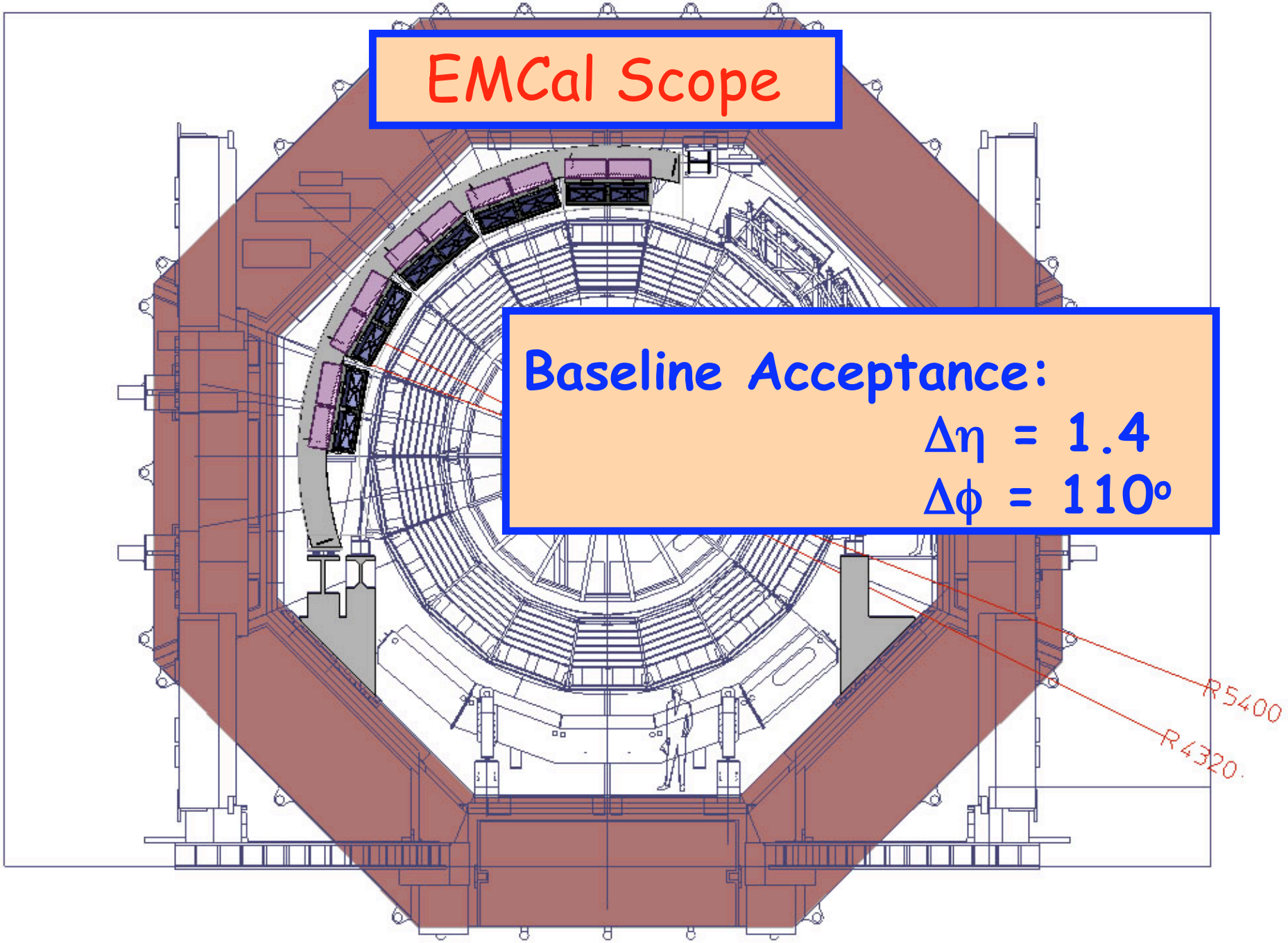
A Collaboration Document

Prior to DOE Review the Collaboration must conduct a "Requirements Review" by panel of internal and external experts

The Detector


EMCal Concept
Electronics Integration Volume
Super modules:
Two per 20 degree sector
2304 towers per 20 degree sector
Support Structure
R5400
R4320.

EMCal Scope

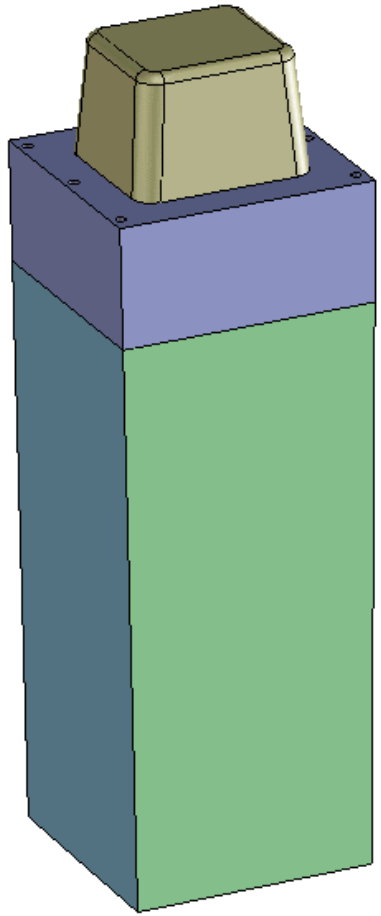


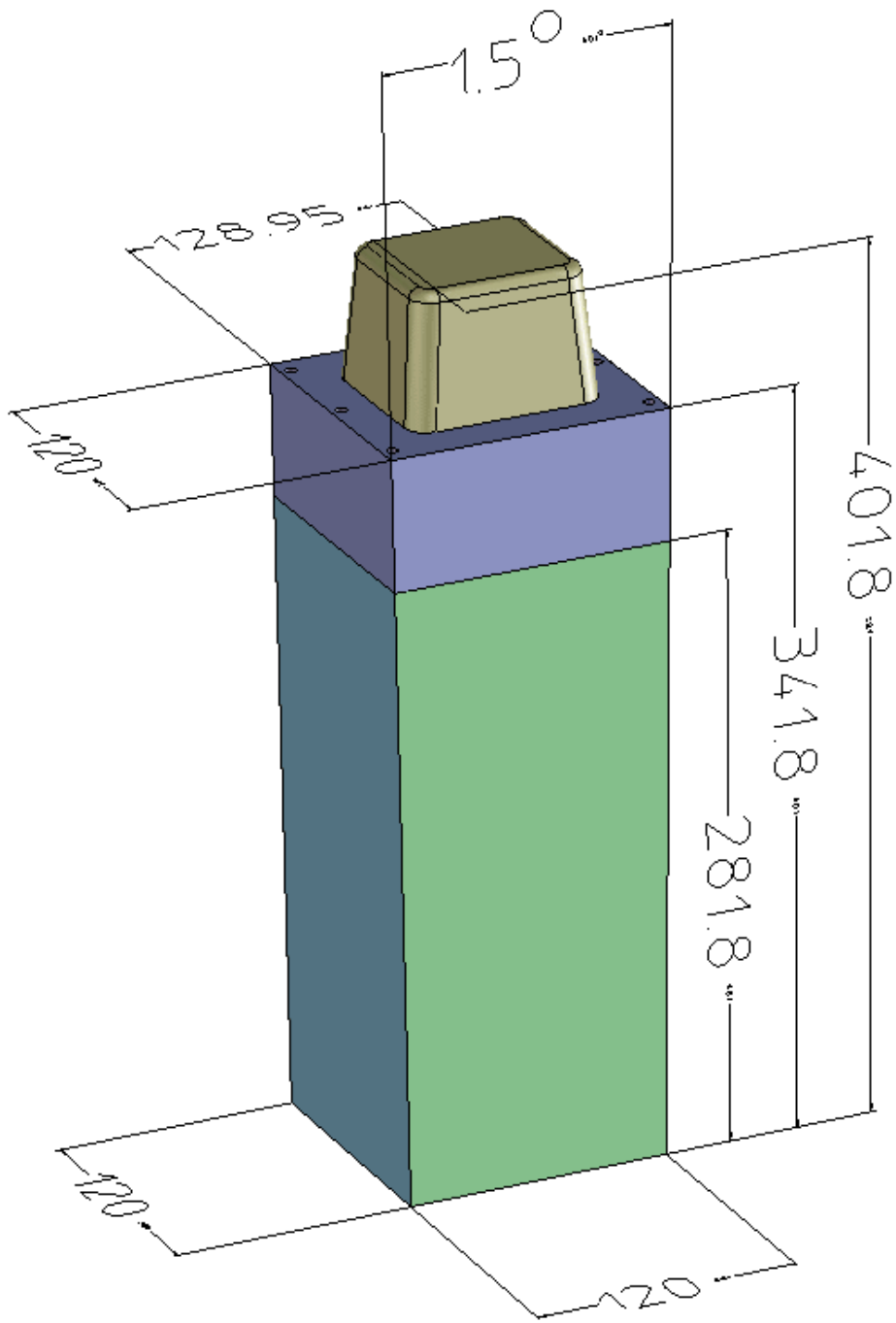
Baseline Acceptance:

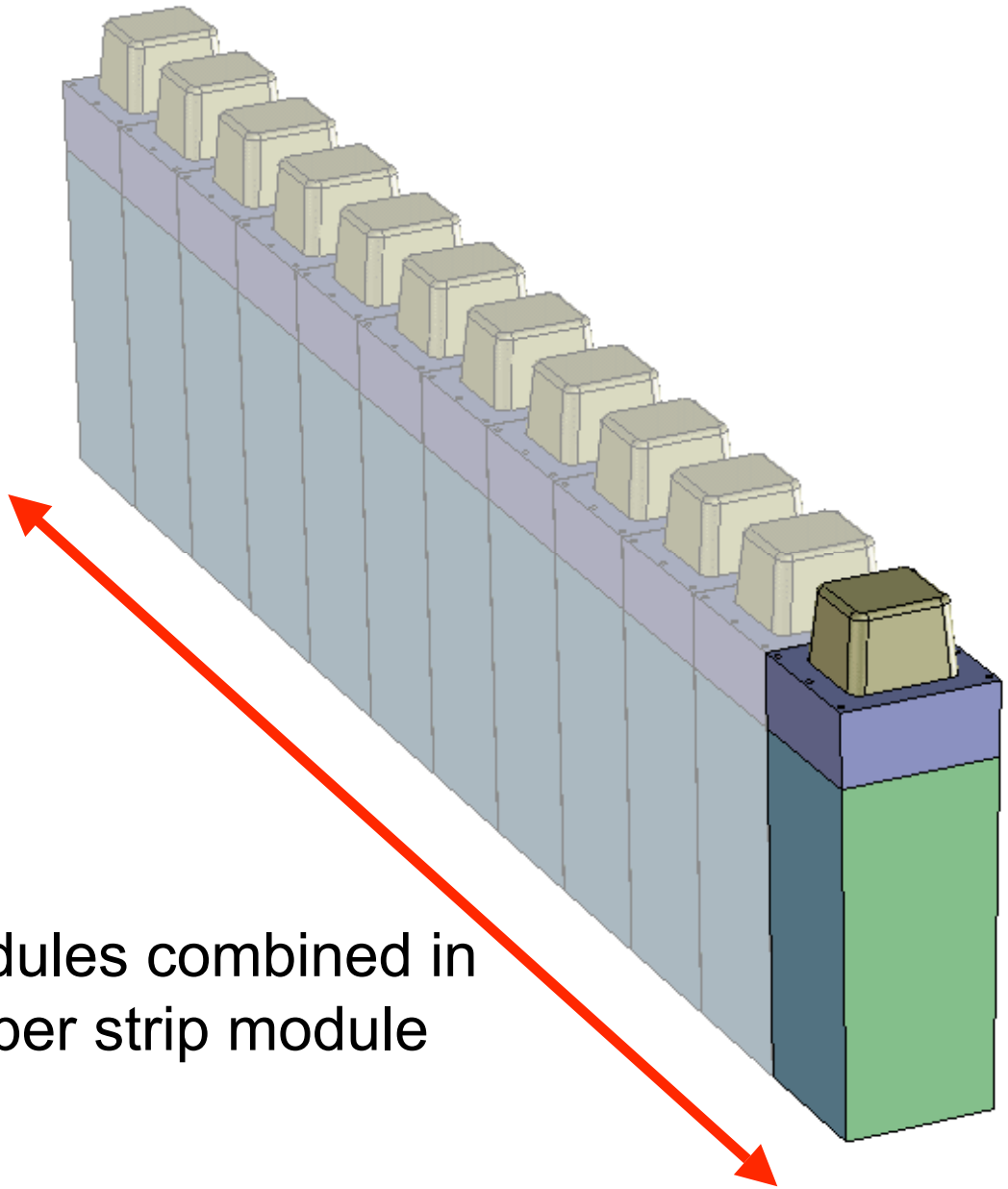
$\Delta\eta = 1.4$

$\Delta\phi = 110^{o}$

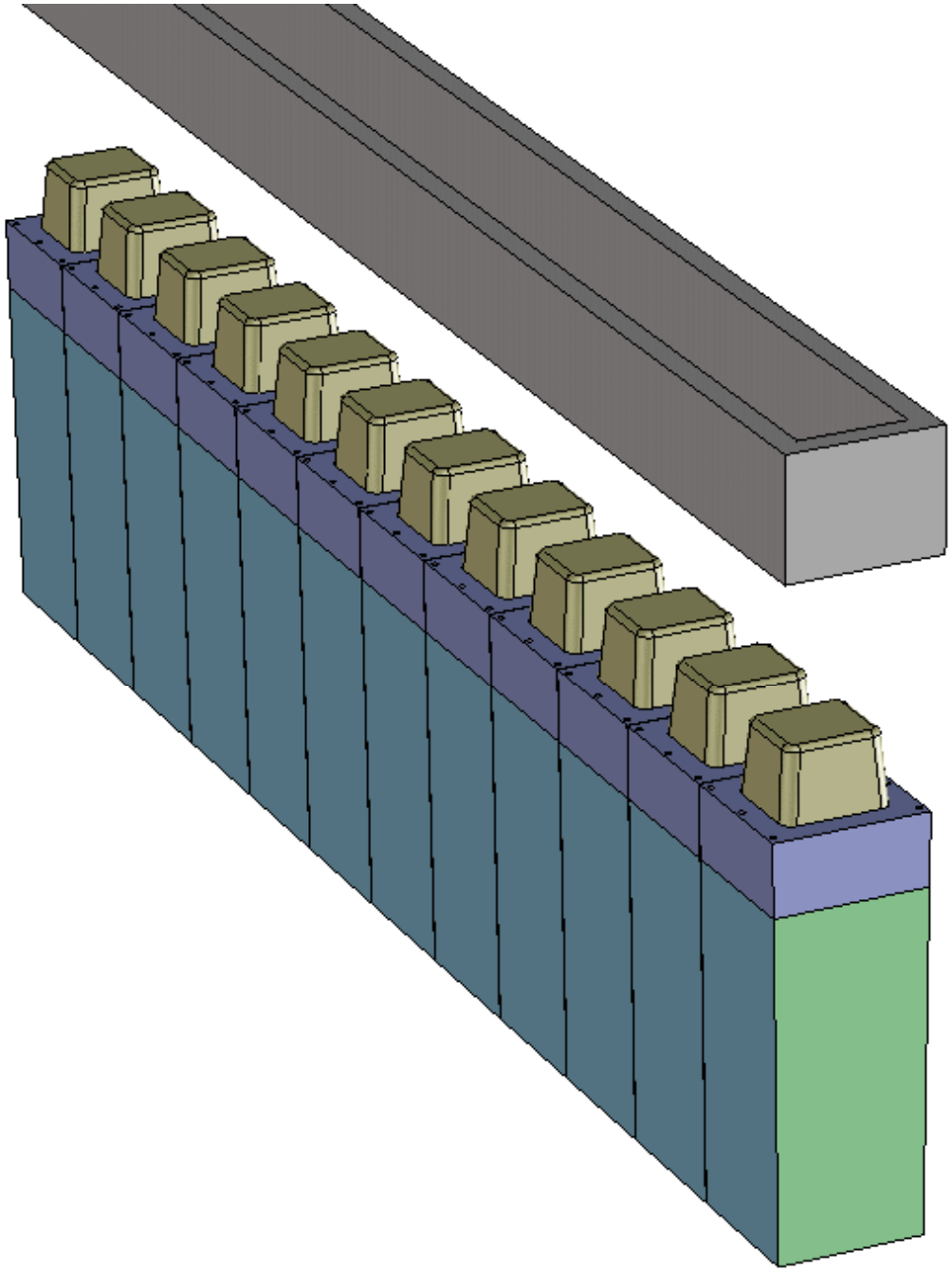
EMCal Module = 4 towers

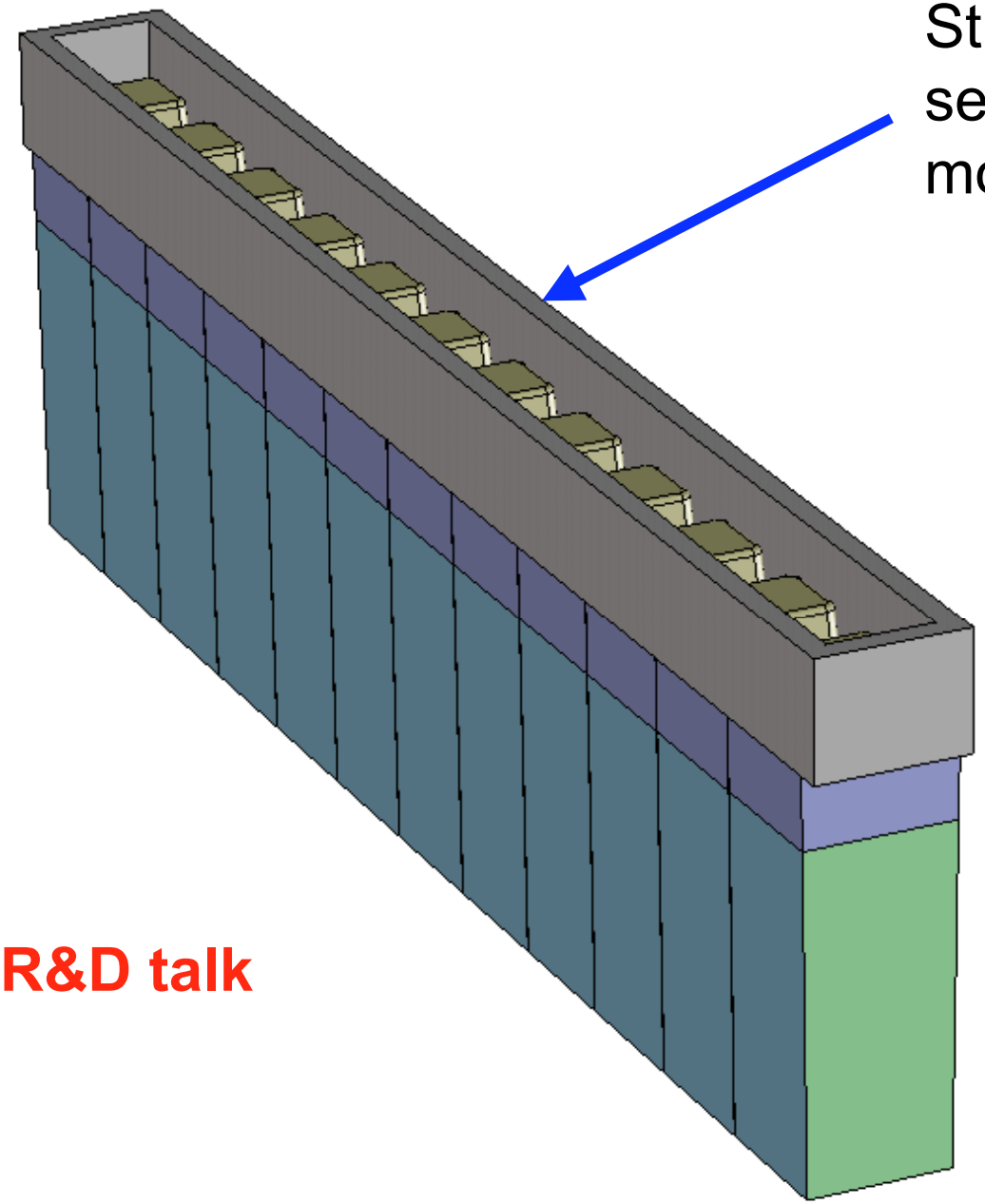



1.5°
128.95
120
4018
3418
2818
120
120



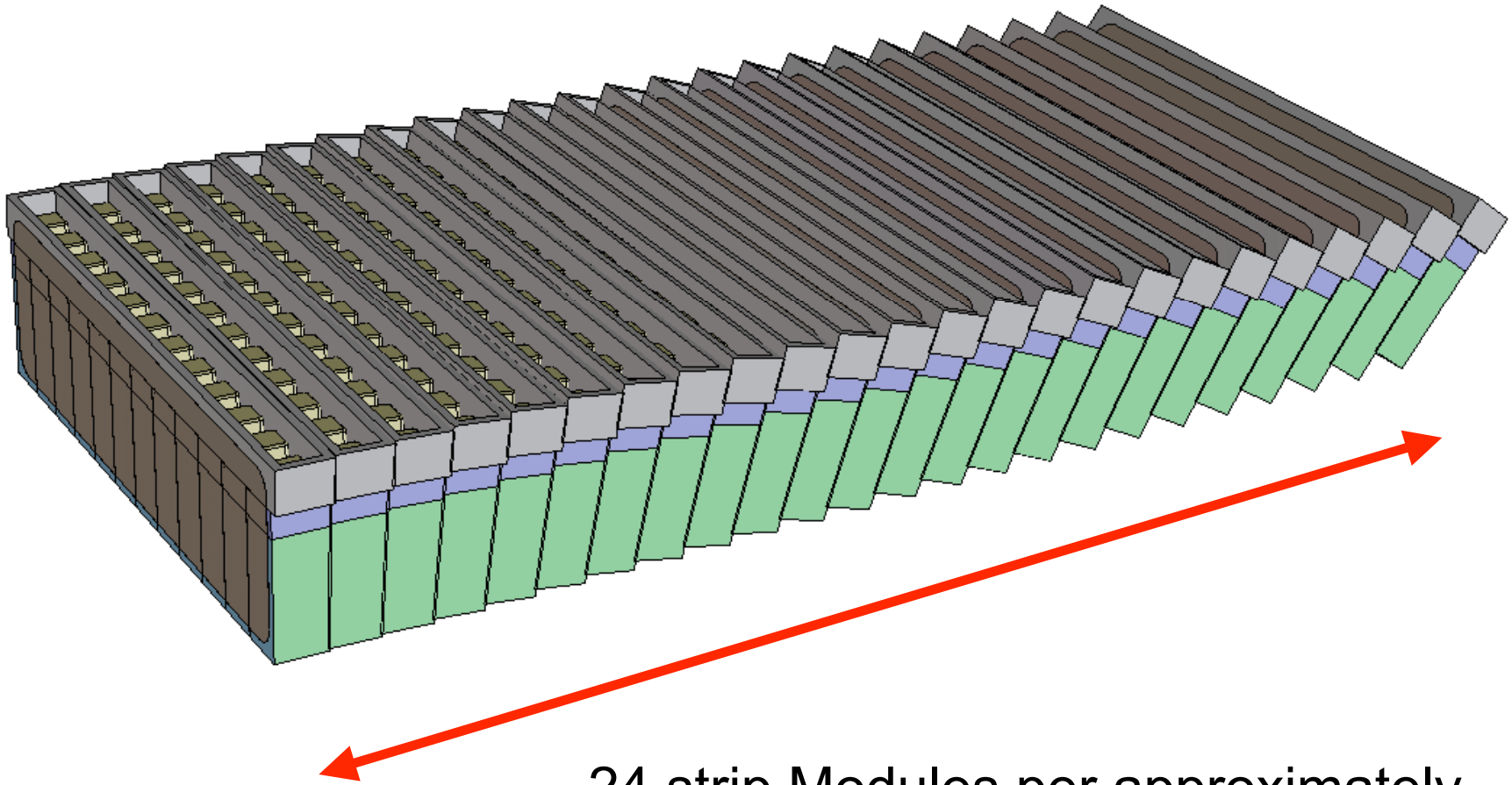
12 Modules combined in
1.5^{o} taper strip module





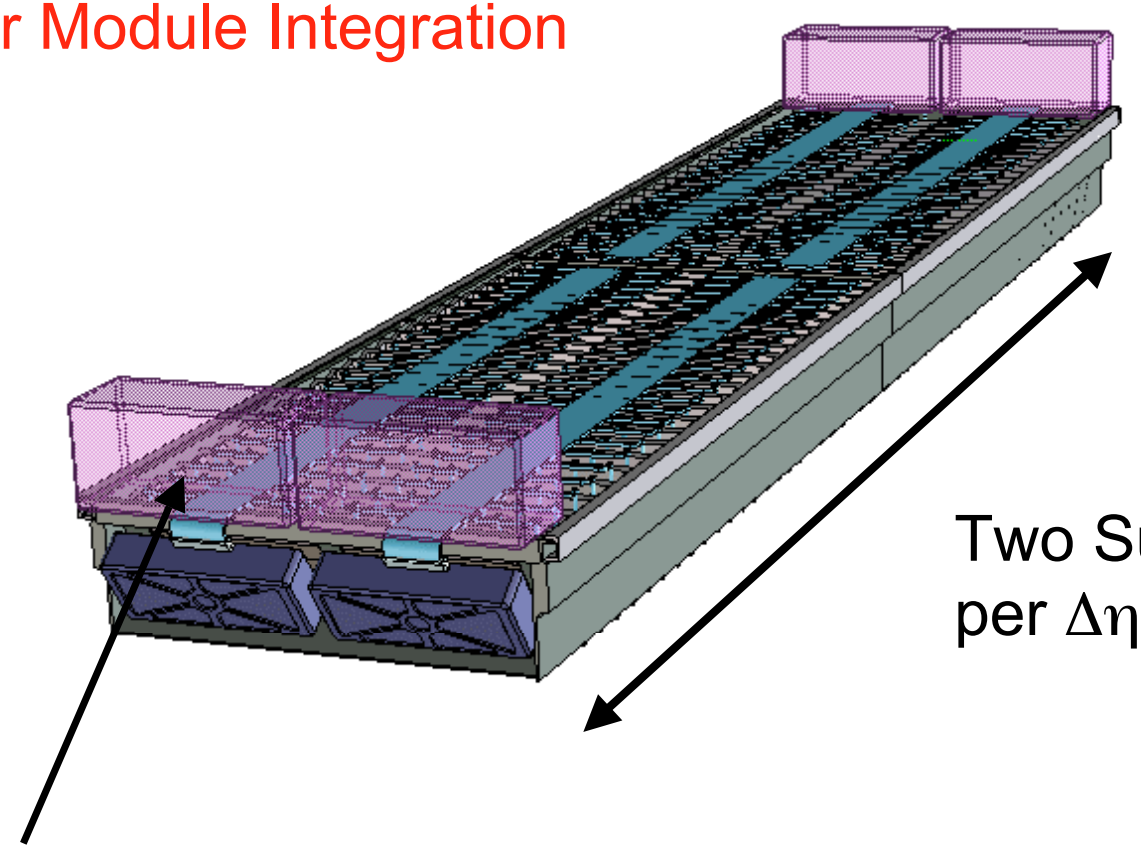
Strong-back produces self supporting strip module

See R&D talk



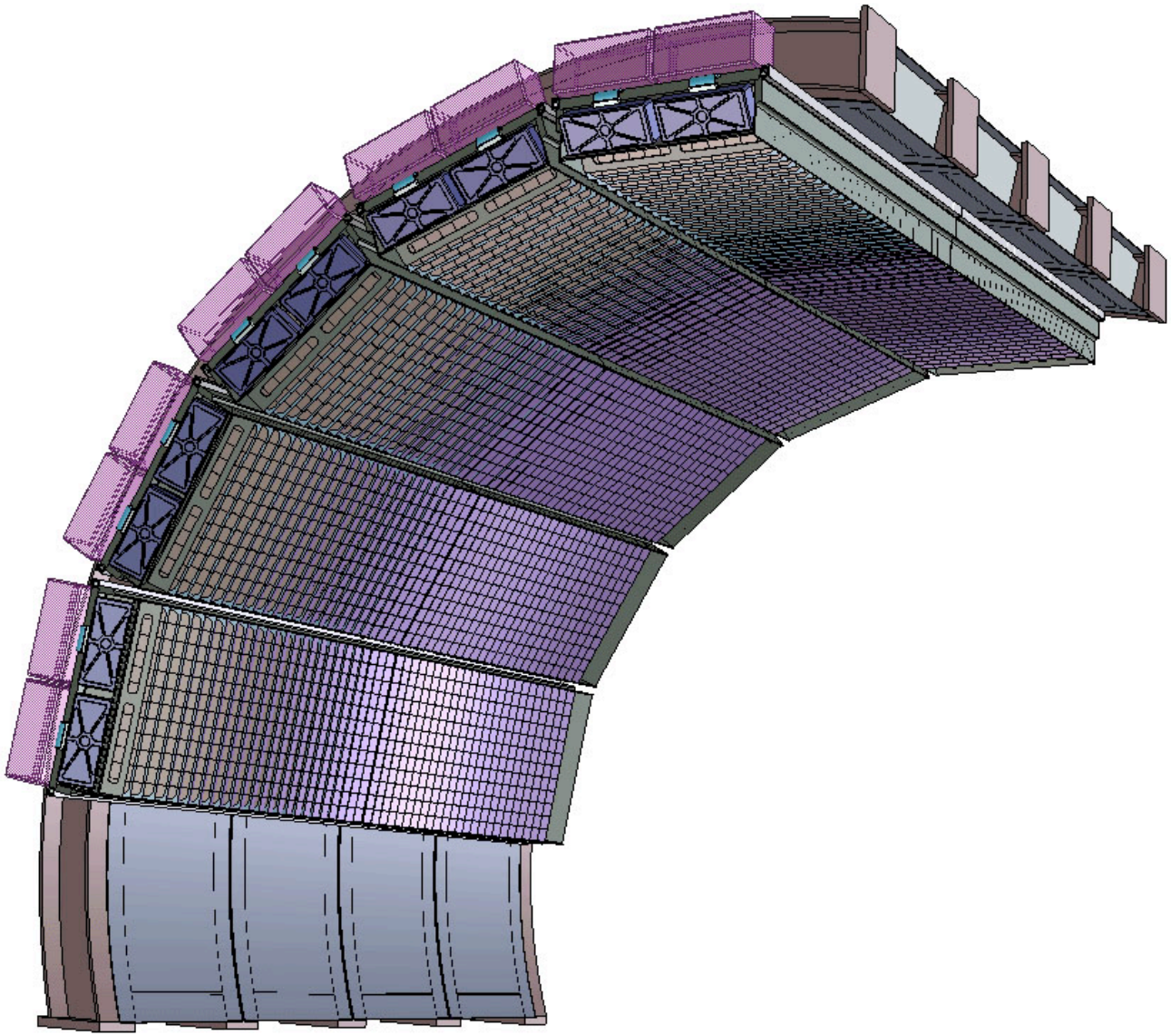
24 strip Modules per approximately projective super module

Super Module Integration



Two Super Modules
per $\Delta\eta = 1.4$

Electronics Integration Volumes



Milestones* to First Physics (wish list?)

DOE Review Cost and Schedule Review	**1 Jan 06**
Final Prototype (Test Beam #2)	**1 Aug 06**
Support Structure Installation Complete	**1 Sep 06**
First Super Module on Site	**1 Aug 07**
First Super Module Ready for Installation	**1 Sep 07**

*** Pending Funding Approval**